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THE NATIONAL WAR COLLEGE
NATIONAL DEFENSE UNIVERSITY

STRATEGIC STUDY

THE 1982 ISRAELI WAR IN LEBANON:
IMPLICATIONS FOR MODERN CONVENTIONAL WARFARE

By

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THE NATIONAL WAR COLLEGE

STRATEGIC STUDIES REPORT ABSTRACT

TITLE: The 1982 Israeli War in Lebanon: Implications for
            Modern Conventional Warfare

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the June 1982 Israeli Defense Forces invasion of Lebanon--Operation
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Israeli wars establishes the introduction. These are followed by
summaries of the ground, air and naval operations of the campaign.
Lessons learned from analyses of Israeli military operations and
innovations are reported and implications for modern conventional
warfare, which may involve the projection of US forces into the
Middle East in the future, are drawn therefrom.

BIOGRAPHICAL SKETCHES

Colonel Gordon M. Clarke, USA, (M. Engr., Texas A&M University) has served in armor and engineer units and has developed a keen interest in Israeli army operations. His assignments have included duty with the 4th Armored Division in Germany and the 1st Armored Division at Fort Hood, Texas; as a combat engineer company commander in Vietnam and a divisional engineer battalion commander in the 2d Infantry Division in Korea. He holds the Legion of Merit and the Bronze Star Medal. He is a graduate of the Army Command and General Staff College and the Army War College. Colonel Clarke is also a graduate of The National War College, Class of 1983.

Lieutenant Colonel George H. Wilkins III, USA, (M.A., University of California, Santa Barbara) has commanded infantry and mechanized units in Europe, South Vietnam and in the United States. He served as a battalion commander in the Rapid Deployment Joint Task Force at Fort Stewart, Georgia from 1979 to 1981 and holds the Legion of Merit and the Bronze Star Medal, each with oak leaf cluster. He is a graduate of the Army Command and General Staff College and The National War College, Class of 1983.

Lieutenant Colonel Donald E. Christy, USMC, (M.S., Operations Research, U.S. Naval Postgraduate School) served as an advisor to the Vietnamese Army and as an infantry company commander, battalion logistics officer, and battalion operations officer with the First Marine Division in South Vietnam. He graduated from the Naval Command and Staff College with highest distinction, later publishing a research paper on the application of the principles of war to the modern, technical battlefield. He has served on headquarters staffs in manpower and logistics and commanded the Brigade Service Support Group of the Third Marine Amphibious Brigade. He holds the Bronze Star Medal with combat V, the Meritorious Service Medal, and two Navy Commendation Medals. Lieutenant Colonel Christy is a graduate of The National War College, Class of 1983.

Lieutenant Colonel Lance P. Woodburn, USMC, (B.A., Political Science, Magna Cum Laude, Chaminade University) has been interested in Israeli military operations since the lightening-like Israeli victories in 1967. That interest was sparked by the sharp contrast between Israeli operations and those US operations taking place at the time in Vietnam. He served two tours in Vietnam, one as a platoon leader of infantry, the second as a battalion advisor to the Vietnamese Marine Corps. He holds three Bronze Stars with combat 'V' and the Purple Heart. He is a graduate of the Marine Corps Amphibious Warfare School and the Naval War College (Command and Staff Course) where

Lieutenant Colonel Travis E. Harrell, USAF, (M.B.A., Florida Technological University) has a broad background in tactical fighter operations including two tours in Southeast Asia, an assignment in the European theater, and operational and training duties in the Tactical Air Command. He served on the staff of the Supreme Allied Commander Atlantic (NATO) as an Operations Analyst and Project Officer for major NATO exercises. He is a graduate of the Air Command and Staff College where his analysis of an Air Training Command pilot retention survey received the Air University Special Research Award. Lieutenant Colonel Harrell is a graduate of The National War College, Class of 1983.

Lieutenant Colonel Thomas J. Lennon, USAF, (B.S., Virginia Military Institution; MPA, Golden Gate University) has extensive experience in tactical fighter operations and staff assignments. He graduated from pilot training in 1966 and served two tours in SEA flying combat in the F-4 (390 missions). He holds the Legion of Merit, Distinguished Flying Cross (3 OLC), and the Air Medal (24 OLC). He is a distinguished graduate of the Air Force's Squadron Officers School, and completed Air Command and Staff College and the Industrial College of the Armed Forces' National Security Management Course. Lieutenant Colonel Lennon is a graduate of The National War College, Class of 1983.

EXECUTIVE SUMMARY

On 6 June 1982, Israeli armed forces invaded Lebanon and within

eight days destroyed most of the Palestine Liberation Organization

(PLO) infrastructure, dealt Syrian occupation forces a harsh defeat

in the Bekaa Valley, and held more than 6,000 PLO soldiers hostage in

the besieged capital city of Beirut. In little more than one week Israeli

combat units brought the nation within reach of the five main national

objectives underlying Operation Peace for Galilee, which were to:

(1) establish a 25 mile buffer zone in southern Lebanon to eliminate the

terrorist haven for cross-border attacks against Israeli territory; (2)

destroy the PLO as a military threat and political adversary in the

region; (3) expel Syrian peacekeeping forces from Lebanon; (4) stabilize

the Lebanese political situation and promote the installation of a

government sensitive to Israeli's security concerns; and (5) improve

Israel's ability to control the West Bank.

The centerpiece of the Israeli joint operation was the advance of

three independent combined arms teams northward along separate

axes of attack. The two westernmost forces routed PLO forces from

coastal and inland strongholds while eastern axis units challenged Syrian

domination of the Bekaa Valley and control of the strategic Beirut-

Damascus highway. Each attacking force moved rapidly, avoided

involvement in prolonged major engagements for non-essential territory,

and kept Israeli and civilian casualities and contact with Syrian forces to a minimum.

The Israeli Defense Forces (IDF) employed versatile combinations of mechanized and airborne infantry, self-propelled artillery, and armor to deal with varied terrain and enemy defense. Maneuver was the dominant tactic as helicopter airlift repositioned forces rapidly to achieve tactical advantage, and naval amphibious forces inserted army blocking units along the coast behind enemy lines and well ahead of the main IDF force. Strong pockets of resistance were bypassed and follow-on forces used superior firepower to overcome the enemy with minimum Israeli losses. Logistical support for the rapid advance was sustained by establishing forward supply and repair facilities deep in Lebanese territory and close to the battle area.

The Israeli Air Force (IAF) achieved air superiority early in the campaign and provided close air support for the army from the initial attack through the siege of Beirut. In the most sophisticated air operation ever conducted by the IAF, the Israelis used remotely piloted vehicles (RPVs) as decoys, army artillery fire, and ground and air launched anti-radiation missiles (ARMs) to disable 16 to 19 Syrian surface-to-air missile (SAM) sites in the Bekaa Valley. When the Syrians widened the air battle by launching masses of MIG-21 and MIG-23 fighter aircraft against Israeli ground and air forces, the IAF used a sophisticated command, control, communications and

intelligence (C^3I) system and high technology weapons and aircraft to destroy 85 Syrian planes without suffering the loss of a single Israeli fighter. The flexible employment of advanced airborne weapons delivery systems and precision guided munitions also significantly enhanced the IAF's capabilities in its close air support (CAS) role.

Israeli Naval Force (INF) missile and patrol boats provided shore bombardment support for the army's advance along the coastline and shelled enemy positions in the city during the siege of Beirut. There is also reason to believe the Israelis may have embarked army artillery, barrage rockets or tanks on lightly armed ships to enhance their sho.e bombardment capability. Concurrent with their naval gunfire support (NGFS) role, the same INF forces conducted blockade operations along the Lebanese coast with the assistance of early warning information on distant surface activity provided by Israeli submarines. The navy's most important role in the invasion was the amphibious landing of troops, tanks, and vehicles well behind enemy lines to block the PLO's retreat with flanking maneuvers. Amphibious landing craft were also employed to provide logistics support for the deployed fleet, transportation for heavy equipment to and from forward areas, and offshore platforms for NGFS weapons.

Many implications can be drawn from the Israelis' experience in Lebanon, but only some have significance in the context of U.S. force procurement, training and employment. Most of the lessons learned

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by the IDF are peculiar to the Israeli situation; consequently, their relevance is lessened when critical factors such as the following are changed: the geo-political situation; the opportunity to plan, train, and conduct surveillance of enemy territory and forces; the size of the theater of operation; the length of logistical supply lines; the enemy's combat capability; and the aggressor nation's role in the international political system. However, implications that are appropriate for consideration by U.S. planners and decisionmakers include:

a. The allocation of resources, planning, coordination, and training required to accomplish effective joint operations.

b. The "force multiplier" effects afforded by the employment of weapon systems with a qualitative advantage in the specific area of application.

c. Tactical advantages that can be achieved through promoting, training for, and employing innovative use of off-the-shelf technology.

d. The expanded array of combat capability produced by a flexible command and control system and the immediate use of operations analysis on the battlefield to enhance tactical maneuver.

e. The impact of accessibility to real time intelligence information.

f. The importance of combat experience, particularly in leadership positions at the fighting unit level.

g. The ability of IDF forces to mutually support one another unhampered by the dogma of doctrinal roles and missions.

CHAPTER I

INTRODUCTION

When Israel came into being in 1948 the armed forces were small, under-manned, ill-equipped and segmented. Within a short time, however, they were molded into a cohesive force capable of conducting effective operations against larger and more modern enemy forces. In 1956 and 1967 Israel went to war to eliminate the threat of Arab attacks and terrorism on her borders. In 1973 she repulsed the combined, surprise attacks of Egypt and Syria but at great cost. Each conflict reinforced Israel's goal of self-reliance in its military capabilities and spurred the continued upgrading of the IDF's strength, organization, doctrine, training and equipment. [1]

Despite an impressive buildup of Israeli military power between 1974 and 1982, sporadic terrorism was planned and carried out from Lebanon. Moreover, by 1982 PLO forces in Lebanon had started to amass a considerable quantity of conventional armament, including artillery and rockets, which posed a potentially serious threat to civilians in Northern Israel. [2] This development, plus periodic clashes with Syria, set the stage for "Operation Peace for Galilee," a massive, combined arms attack across the Lebanese border that commenced at 1100 on Sunday, 6 June 1982. The principal political and military objectives were articulated as follows:

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o Establishment of a 25 mile buffer zone to protect Israeli villages from attack by PLO artillery and rockets in southern Lebanon.

o Destruction of the PLO as an effective military and political force.

o Expulsion of the 26,000-man Syrian peacekeeping force from Lebanon.

o Political stabilization of Lebanon that would restore peace to the country and neutralize it as a base for military operations against the Jewish state.

o Facilitation of Israel's efforts to control the West Bank as a result of the diminution of PLO influence. [3]

The invasion was so well planned and coordinated that by June 14, only 8 days after the preemptive strike was launched, the IDF completed the encirclement of Beirut, destroyed the PLO infrastructure in southern Lebanon, and dealt Syria a harsh battlefield defeat. [4] The Israeli master plan was no secret. While the details of military strategy of the invasion might not have been known to all leaders, the broad war objectives of destroying the PLO military and political infrastructure and creating a situation for a new and friendly government in Lebanon were known. Although many specific operational aims and some of the strategic aims were achieved, the full accomplishment of others remained contingent on post invasion

negotiations. [5]

The incursion into Lebanon demonstrated the importance of readiness and training to the outcome of combat operations; the positive impact of leadership, innovation and flexibility in all operations; and the value of superior organization throughout the active and reserve units of all types. [6] More specifically, Israeli operations were marked by skillful application of modern technology, highly effective tactics, and the aggressive employment of heliborne and special forces. Of particular note was the Israeli conduct of naval and amphibious operations and the IAF's suppression of Syrian surface-to-air missile (SAM) batteries.

The IDF's success was not surprising in view of its historical reputation for innovation, daring, adaptation, use of technology, surprise and so forth. Past wars had taken place in a unique geo-political context that contributed to the evolution of an equally unique and particularly effective force structure, doctrine and strategy.

Over the years the U.S. has maintained a special interest in the reasons for the IDF's successes and their implications for the future structure and possible deployment of U.S. forces in the Middle East. If anything, this special interest was accentuated by the 1982 conflict in Lebanon because of the use of American and Soviet military hardware, some of which reflected the latest state of the art.

Although strains in relations between Washington and Jerusalem

have precluded a full sharing of information about the war, it is important to synthesize and assess what we do know. Besides improving our general understanding of what transpired in the Lebanese War, a preliminary analysis of Israeli military operations and innovations can enhance the agenda for further investigation once new and more complete data becomes available. It can also suggest potentially important implications for the possible projection of U.S. forces in the Middle East in some future crisis.

In pursuit of these aims the analysis undertaken herein relies on data from a number of sources, including articles, newspapers, intelligence documents and reports, as well as interviews with U.S government officials and representatives of the IDF. For the most part, the methodology is qualitative. The study is organized into chapters which cover ground, air and sea operations as well as significant lessons learned from the war in Lebanon and implications for modern conventional warfare and conclusions. Of special interest are Israeli national strategy pertinent to the war; military doctrine and strategy; evolving military force structure; and, command and control, or decisionmaking processes.

CHAPTER II

GROUND OPERATIONS

Introduction

At its inception, Israel had no colonial military forces to draw

from to establish and shape its armed forces. Rather, it developed

those forces from armed security groups that had formed to protect

the Jewish settlements in what was the Palestine Mandate administered

by Great Britain. Jewish immigrants brought with them military

experience from both eastern and western European countries. In

addition, the British occasionally provided Jewish settlements aid in

the form of military training and arms. Melding different military

methods into workable doctrine and military practices was a consid-

erable challenge, and led to the development of this cardinal rule:

If it works use it. If it doesn't, change it or reject it. The develop-

ment of Israel's armed forces was, therefore, "marked by a turmoil

of innovation, controversy and debate."[1] This turmoil led to a primacy

of ideas over the development of tradition.[2]

The historical and geopolitical factors that shaped the IDF include

the lessons learned from previous conflicts and the changes those

lessons produced. (See Appendix B for a more complete historical

treatment of IDF development.) All of these factors had significant

bearing on the development of the IDF that invaded Lebanon. The

emphasis in the IDF has been on the interaction of combined arms in a doctrinal context where the principles of surprise, fighting in enemy territory, and the indirect approach are central. Armor formerly was the primary striking component of the ground force. However, mechanized infantry, self-propelled artillery and airborne infantry components are now integrated into virtually all operations. All these changes appeared to provide a solution to the doctrinal and structural problems encountered by the ground forces in 1973 and previous wars, but it was not until Operation Peace for Galilee that the validity of the changes were tested in sustained combat.

Israeli preparations for Operation Peace for Galilee commenced at the conclusion of the 1973 Yom Kippur War. (See Appendix C for a more detailed account of Operation Peace for Galilee.) In the following decade, the Israeli military-industrial community became virtually independent from the world in military ground equipment production. Innovation and change spearheaded Israeli thinking in all military areas. As the 1980's approached, tactics were tailored to the anticipated threat and the terrain. Combat service support [forces and supplies] was readied, and quality personnel were highly trained and motivated. Above all, a well integrated master plan involving all components of the IDF was conceived and thoroughly rehearsed. The result was that only eight days after the start of Israel's invasion of Lebanon, the IDF had destroyed the PLO infrastructure in southern Lebanon, dealt the Syrian armed forces a costly setback, and completed the encircle-

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ment of Beirut. A discussion of major areas of lessons learned
from ground combat operations follows.

Deception

Pursuant to the doctrinal stress on surprise, Operation Peace for
Galilee battle plan called for desensitization of the Syrians by conduct-
ing repetitive northern border training exercises which were actually
rehearsals for the forthcoming invasion. These maneuvers, conducted
over the 13 months preceding the invasion, achieved the desired
objective since Syria discontinued credible responses after the fifth
exercise. Upon completion of the eighth feint, the Israelis were
satisfied that the time was right to strike. Preparations were complete,
intelligence updates were current and the element of surprise was
basically assured. As the ninth "rehearsal" began the invasion was
underway.

Force Structure

When the invasion began, a predominantly armored force of over
20,000 Israeli soldiers crossed the Lebanese border and split into
three division-equivalent axes of advance. The invasion force was
designed for breakthrough tactics and ground forces were formed into
three independent armor/infantry combined arms teams. To support
these forces, mobile equipment repair facilities and supply depots
were established in forward areas to maintain the momentum of
combat forces. Ground forces were thus able to move exceptionally
fast with minimum losses against enemy strong points. The

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integration of forces into combined arms teams was achieved by a
complex system of coordination and cooperation among all branches
of the Israeli military forces.[3]

Military Doctrine and Strategy

Israel's leaders believe strongly that offensive conflict is more
economical and decisive than a defensive war of attrition. Moreover,
the dictum that the side with inferior numbers (Israel vis-a-vis Arab
world) will never win if it remains on the defensive has become fixed in
Israeli military strategy. Therefore, this massive attack employing
breakthrough battle tactics reflected IDF doctrine and national
strategy.[4] This offensive philosophy was displayed throughout the
conflict--from the decision to invade to the siege of Beirut.

The linchpin of the IDF during the Peace for Galilee operation was
the simultaneous, combined-arms firepower of armor, mechanized
infantry, artillery, air, and naval gunfire. Though tested for the first
time in the limited 1978 Litani Campaign in southern Lebanon, this
was the first significant test of integrating air with ground forces.
This proved successful and the IAF's air supremacy allowed ground
forces to move with virtual impunity.

Enemy anti-tank firepower, villages and towns and mountainous
terrain placed severe maneuver constraints on the IDF, but reduced
mobility and speed were accepted in order to reduce military and
civilian casualties.[5] Throughout the operation, paramount concern
was the minimization of manpower and equipment losses. Self

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propelled artillery and assault helicopters were employed with great

innovation (to lessen pressure on armor and dismounted mechanized

infantry). Israeli ground forces and equipment (to include tanks)

were moved by heliborne assault around enemy strong points to more

tactically advantageous terrain, thereby outflanking the enemy and

diffusing his battlefield resources.[6] The IDF maintained pressure and

momentum by bypassing enemy strongpoints, leaving them for

elimination by follow-on forces (the indirect approach).

The elements of surprise, speed, mobility and, firepower were

significant in the IDF's Lebanon strategy. This war, like the 1973

war, underscored the first element. Just as Israel was not

prepared for the Arab attack in 1973, neither the PLO nor the Syrians

were prepared adequately for the Israeli invasion, in part because of

the Israeli's use of deception. Surprise and breakthrough battle

tactics resulted in quick achievement of objectives in all sectors of

this operation. Momentum was sustained by self-propelled artillery,

CAS, heliborne repositioning of supporting arms, and far sighted

logistical preparation.

Quality and Innovation

Underlying all preparations and fighting was the IDF's commitment

to quality in leadership, manpower, training, motivation and equip-

ment. Combat veterans of past wars were the cadre for this conflict.

As in the past, leaders set the example by positioning themselves in

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the front rather than the rear areas. Virtually every maneuver commander personally reconnoitered far north of the border prior to the invasion. Additionally, prior to the fighting field commanders had open channels through which they conveyed ideas into the military-industrial community in order to improve war machinery. Innovation was promoted in every area. The IDF technical edge remained significant because of large investments that had been made on research and development. Rather than avoiding change, IDF leaders earnestly sought brillant young people to challenge their system.[7]

Command and Control

In Lebanon, as in past wars, initiative, flexibility and adaptability marked decision styles of IDF commanders. Though hard data is not yet available, there is reason to believe that the IDF's war fighting decision processes were supported by an effective command, control and communication (C^3) system. Indeed, the absence of such would make the simultaneous integration of all supporting arms and the extraordinary control of the air battle, hard to explain. Technically sophisticated or merely a simple, well-practiced system, it passed the ultimate test of success. Support for such precise command and control came from a state-of-the-art, real time intelligence system. Remotely piloted aircraft supported this system and gathered real time battlefield intelligence via sophisticated television cameras and transmitted it to ground commands so they could "see" enemy

positions and movement without risk to personnel.[8] Pulling all these

forces together was the IDF command structure. Far superior to

the Syrians in mobile combat, Israeli commanders located themselves

far forward in the battle area for optimum control. Israeli unity of

command, integration of supporting arms, and positioning of head-

quarters allowed for optimum command and control and application

of forces.

CHAPTER III

AIR OPERATIONS*

Introduction

Peace for Galilee progressed well for the first three days until the
IDF engaged elements of the Syrian armed forces. Before further
progress could be made the Israelis had to achieve freedom to operate
in the Bekaa Valley secure from enemy air attack and unhampered by
ground-based threats opposing IAF close air support and interdiction
operations.

SAM Suppression

A major obstacle to this objective was the extensive air defense
system which the Syrians had built up during their years of occupation
in the area. The heart of the system consisted of 19 SAM sites
defended by approximately 450 to 500 anti-aircraft artillery (AAA)
pieces. This threat included 40 to 60 SA-6 transporter-erector
launchers (TELs) with 180 missiles ready to fire, 12 SA-2 launchers
with 12 missiles, and 7 SA-3 launchers with about 21 missiles.

To neutralize this threat, the Israelis used a plan developed in the
late 1970's as a result of lessons learned in the 1973 Yom Kippur War.
The plan was designed specifically to supress heavy concentrations of
surface-to-air missiles and called for extremely precise coordination
of drones, electronic jamming, ground artillery, standoff missiles and

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strike aircraft. It w.; the most sophisticated air operation ever under-
taken by the IAF and required central control by the Northern
Regional Control Unit (RCU) as well as 100 percent effectiveness by
each component function.

The operation was initiated at 1500 hours (local) on 9 June when a
large force of glide and power driven unmanned drones was launched
to approach the Bekaa Valley from the South and West. The axis of
the attack placed the bright afternoon sun behind the drones and thus
degraded the enemy's optical tracking systems. This forced the
defenders to rely on radar detection and tracking information that
decreased their ability to discriminate between attack aircraft and
electronically enhanced drones. It also dictated prolonged radar
operation and increased the system's vulnerability to anti-radiation
weapons.

As the SAMs engaged the approaching drones and subsequently went
into their reload cycle, one squadron of IAF F-4 aircraft armed with
anti-radiation missiles entered the area at high speed and low altitude
masked by the rugged terrain. Syrian missile radar guidance systems
pre-occupied with the "attacking" drones and extensive airborne
jamming were easy prey for the F-4's anti-radiation missiles. And
to further confuse the Syrian's the Israelis coordinated artillery fire
and possibly ground launched anti-radiation missiles positioned within
range of the SAM sites. Once the majority of SAM guidance and

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control systems had been neutralized, follow-on waves of fighter-bombers--about 60 to 80 aircraft: F-4s, A-4s, and KFIRs--attacked additional targets in the area. Even though all the SAM radar systems had not been destroyed by the first wave of anti-radiation missiles, the attacks had been so successful that the Syrians elected not to turn on those systems that did remain operable.

The Air Battle

Having lost the surface-to-air missile portion of their air defense system, the Syrians widened the battle for air superiority as they launched masses of fighter aircraft to attack Israeli ground and air forces. The Syrian air armada consisted of MIG-21s and MIG-23s attempting to employ Soviet radar controlled intercept and surface attack tactics.

The IAF was well prepared. The Northern RCU received data-link information on enemy air activity from airborne RC-707 and E-2C Hawkeye aircraft as well as information from spotters, spotter aircraft and balloon supported radar. Intelligence elements also monitored Syrian airfield tower frequencies and the frequencies used by enemy strike fights. Battle managers in the RCU were thus able to maintain a relatively clear picture of the tactical situation at all times.

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As the air battle developed, the RCU communicated directly with operational units and ordered flights committed to air combat. The battle manager then allocated these fighters to individual controllers who directed them for specific engagements. Israeli pilots were constrained by only two formal rules of engagement (ROE): they could not fly over Syria, even in hot pursuit; and they were required to identify the enemy visually before firing. The first rule was a clear signal to the Syrians that Israeli objectives and intentions were limited to the confines of Lebanese territory and air space.

The Israelis encountered some communication interferences, but were able to operate effectively with the aid of good anti-jamming radio procedures, numerous pre-briefed frequencies, and dual radios. In the early engagements IAF fighters were loaded with the new and expensive AIM-9L heat seeking missile. However, after analysis of initial attacks indicated that many shots were being taken from conventional, rear angle approaches, the aircraft flown by senior IAF pilots were loaded with the older, less maneuverable and less costly models of the AIM-9 missile. The Israelis were able to achieve an unprecedented kill rate employing the AIM-7 radar guided missile carried on F-15 aircraft along with the above mentioned heat seeking missiles.

The Syrian Air Force (SAF) demonstrated it lacked the training, experience, organization, and leadership needed to perform its

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mission. Some aircrews tasked to attack Israeli ground positions were unable to navigate at low altitude and were shot down when they popped up to reorient themselves or search for a non-existent ground target. Others attempted to engage Israeli combat air patrols (CAP) by ingressing at one level and then zooming up to the enemy's altitude--they often zoomed right into the sights of a covering aircraft. In those few instances when a Syrian fighter did become a threat to an IAF aircraft, the Israelis used communications jamming and deception techniques very effectively. In some cases the Syrian pilots became so confused they simply leveled off and headed straight back to Syria only to be shot down by the stalking IAF. The battle for air superiority was over when the Syrians had lost 85 aircraft without winning a single air combat victory from the Israelis.

Close Air Support

Israeli CAS operations were conducted efficiently, effectively and with relatively light opposition following the achievement of air superiority. There were reports of untimely responses to CAS requests, but overall the tactical air control system functioned essentially according to plan. Immediate air strike requests were forwarded from the ground force unit level, and pre-planned strikes were coordinated by intelligence elements of the battle management staff. Air allocation and mission tasking were accomplished at the Northern RCU, and field intelligence reports were forwarded directly

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to operational flying units to provide them with near "real time" intelligence data. The Israelis did not depend on airborne forward air controllers for command and control in the target area.

Throughout the ground forces offensive operations, the IAF demonstrated excellent flexibility by re-rolling tactical fighter assets to support CAS requirements. For example, some of the aircraft initially identified for SAM suppression missions were subsequently committed to CAS as early SAM strike missions proved more successful than had been anticipated. Later in the campaign even CAP resources were diverted to CAS when they were not required to counter an enemy air threat. Both F-15 and F-16 aircraft configured for the air superiority role were employed to strike enemy ground positions with 20mm cannon fire.

Probably the most demanding phase of CAS operations in the Lebanese campaign occurred during the seige of Beirut. With Israeli ground forces established in static positions in and around the city and elements of the PLO intermingled with the town's Lebanese population, the IAF was forced to adopt tactics suitable for "urban terrain." Specifically, the IAF had to execute every bombing attack with extreme discrimination and accuracy. In some instances this meant destroying a particular building without hitting or damaging other property immediately adjacent to the target even at night. The high success rate achieved on these "surgical" bombing missions was due in large

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part to the technology of precision guided munitions and computer assisted weapons delivery systems.

*Note: Information contained in this chapter has been synthesized from multiple sources, including interviews with Department of Defense and Israeli military officials. It has been declared unclassified for publication in its present form by the Defense Intelligence Agency. That agency should be contacted for more detailed classified information pertaining to Israeli air operations in the 1982 war in Lebanon.

CHAPTER IV

NAVAL OPERATIONS *

Introduction

While the Israeli navy has been given low priority in the overall

allocation of personnel, its developing prestige was making it more

competitive on the eve of the Lebanon war. Although historically

allocated far less resources than the rest of the IDF, the INF had

become a small, elite service that relied primarily on small fast

craft equipped with Gabriel and Harpoon missiles to achieve its

objectives.

All aspects of the INF's operations in support of Operation Peace

for Galilee were highly successful. The ability of the navy to

mobilize virtually all of its Mediterranean fleet attests to a high

state of combat readiness. Additionally, training played a major role.

The INF operating forces engaged in frequent exercises afloat and

supplemented those ashore with sophisticated computer simulations

designed to provide realistic training under combat conditions.

Particular emphasis was placed on offensive missiles firing exercises,

missile defense, antisubmarine warfare, conventional and unconven-

tional amphibious operations, and, to an increasing extent, coordinated

naval-air-ground operations. One of the most important observations

of this operation was that team work among naval units and land and

air forces proved vital. Previous conflicts, specifically in 1967 and the 1973 war, found the Israeli navy fighting naval battles at sea while the ground forces conducted their operations with little thought given to mutual support. For this operation in particular the navy trained extensively for about 18 months for joint operations with ground and air forces.

Naval Gunfire Support (NGFS)

Israeli naval operations in the form of shore bombardment began on the evening of 4 June on selected targets from the coastal city of Zahrani southward. This bombardment, in conjunction with air and ground attacks, continued until 9 June when a coordinated IDF attack on all enemy positions pressed north of Damur to the Beirut International Airport and the towns immediately south of Beirut. Though interrupted by ceasefires, naval bombardment coordinated with air strikes and ground artillery continued through early August. West Beirut and outlying suburbs were subjected to intense and heavy bombardment from the sea suggesting that the INF may have supplemented its limited naval gunfire assets with non-organic means, such as army artillery pieces, barrage rocket launchers and possibly even tanks mounted on their amphibious ships.

Blockade

INF surface craft and submarines conducted blockade operations to prevent the Palestinians from fleeing southern Lebanon by sea,

conducting terrorist attacks along Israel's northern coast, or being resupplied by sea. Operation Peace for Galilee was the first time INF submarines were used with such great intensity to support Israeli combat operations. In June, there were several instances of Israeli blockade enforcements where ships were stopped and searched. A ship carrying students from the University of Beirut was seized and diverted to the Israeli port of Haifa where it was detained and the passengers questioned. The ship was subsequently permitted to continue on its journey to Cyprus. The only known instance of a vessel actually being denied entry to Lebanese waters occurred on 21 June. A vessel carrying Red Cross Relief supplies to Sidon was turned away by the INF on the pretext that approaches to the port had been mined by Palestinians. The ship eventually docked in Haifa after a thorough inspection by the INF.

The naval blockade of the central and southern Lebanese coast remained in effect through August and prompted many shipping companies to divert Beirut-bound cargoe to Cyprus and Syrian ports. The Beirut port was officially closed on 14 and 15 June; however, activity in the port gradually resumed after 15 June and continued through July under close INF control.

Naval Landing Operations

The INF's most significant contribution to the successful military conclusion of Operation Peace for Galilee was the landing of troops,

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tanks and vehicles behind the enemy's lines in a classic flanking movement. This was an incredible feat in light of the limitations of INF amphibious landing assets. The INF fleet conducted extensive conventional and commando type landings in addition to seaborne resupply of IDF ground forces from 5 June through 10 August along the Lebanese coast. The INF employed one tank landing ship (LST) and three medium landing ships (LSM) in landing operations.

The Palestinians attempted to repel the landings, but without success. A senior Israeli naval officer reported that terrorist shore batteries fired all they had at the craft and the navy hit back destroying guns and radar installations. Just as in the Yom Kippur War, the navy emerged without losing any men or craft.

Command and Control

A flexible approach to command and control was largely responsible for the INF's operational superiority and contributed to the successful military conclusion of Operation Peace for Galilee. Additionally, the INF relied on current tactical intelligence and instantaneous communications. A maze of coastal radar stations reported directly to Naval Headquarters where a central plot of the eastern Mediterranean situation was maintained. If necessary, radar stations could communicate directly with afloat units. Most of the INF missile fleet is equipped with Naval Tactical Command and Control Systems (similar to the US Naval Tactical Data System) which

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correlate and display real time tactical data for surface units, aircraft and shore sites.

Summary

The INF's two most significant contributions to the successful military conclusion of Peace for Galilee were the amphibious landing of troops, tanks and other equipment north of Palestinian positions, allowing the Israeli ground forces to encircle their Palestinian opponents; and the coastal blockade which was successful in preventing Palestinian resupply by sea as well as bottling up escape routes for those who attempted to retreat. These actions, in combination with massive naval bombardment, made an important contribution to the ground forces' rapid advance and success in the coastal sector. They demonstrated that the need for better integration of the various ground and air arms was a lesson from the 1973 war that was not only well learned but effectively expanded to include the navy.

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CHAPTER V

SIGNIFICANT FINDINGS AND IMPLICATIONS
FOR MODERN CONVENTIONAL WARFARE

Significant Lessons Learned

During Operation Peace for Galilee the Israelis succeeded, as

they had planned, in achieving many of those objectives outlined in

Chapter I.

The following are the most significant findings of this study that

should be of special interest to all observers.

National Security

O Israeli military objectives in Lebanon were supportive of the

national goal of security.

O Israel's geo-political situation in the Middle East continues to

dictate her drive for security in the region based on the

development of superior military power and self-reliance to

the extent possible.

Military Doctrine

O Israeli military doctrine stressing surprise, transferral of the

fighting to enemy territory, the indirect approach and so on

is derived from national political goals and has evolved through

forty years of testing on the battlefield.

O The IDF constantly improves its organization and equipment

through combat experience, technological innovation and

leadership.

o Operations are planned deliberately and in great detail. An integrated, combined arms approach is taken to all operations.

o Careful consideration is given to how the Army can support the Air Force (SAM suppression) and how the Air Force and Navy can support Army objectives (tactical air, movement of tanks, shore bombardment).

o Tactical innovation, training, adaptability, battlefield initiative and combat leadership all have a positive, synergistic effect on conduct of combat operations.

Force Structure

o Evolutionary changes have produced combined arms elements that are tailored and outfitted to fight specific threats.

o Application of technology and extensive modification and modernization of existing and captured weapons systems and equipment have contributed significantly to the IDF's success on the battlefield and to reduction of equipment costs.

o The direct link between field commanders and Israeli industry has enhanced the development of required operational capabilities of all systems.

Decision Making

o Command, control, communications and intelligence capabilities extending from the national level down to

operational units provided the IDF with an important "force multiplier" effect on the battlefield.

o Details are left to subordinate commanders so long as they accomplish their missions. This promotes effective decision-making and initiative.

o Combat leadership comes from the front, where command, control and the use of real time intelligence can best affect the outcome of the operation.

Implications for Modern Conventional Warfare

It is difficult to envision the involvement of U.S. forces in a combat scenario with major strategic characteristics similar to those experienced by the Israelis in Lebanon. U.S. forces would most likely enter combat in a hasty defensive or at best counteroffensive role, and as a result, detailed planning time is likely to be extremely short. There will probably not be any opportunity to achieve surprise through repetitive feinting maneuvers or covert prepositioning. Established communications and intelligence networks most likely will not be available; and American units presumably will not have extensive experience in the combat area nor be familiar with the enemy's terrain. If the U.S. should deploy forces to fight in a regional or limited confrontation, there are several major facets of Israeli operations in Lebanon which yield important implications for American force planners.

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Joint Operations

Israeli joint combat operations are closely integrated and coordinated, and their command and control arrangements seem to be simple, yet effective. They avoid being encumbered with a traditional division of labor (roles and missions in military parlance) and this fosters innovative tactics which capitalize on the capabilities of each component. And perhaps most importantly, resources are allocated to achieve maximum combat capability for the IDF as a whole, thus ensuring adequate provisions for integrating systems such as command and control, communications, and intelligence. To achieve the IDF's effective integration of all services displayed in Operation Peace for Galilee, it has taken 35 years, numerous conflicts, and daily pressures of protecting state borders from Arab incursions. Therefore, perhaps the true lesson for U.S. forces to learn in the area of joint operations is that it is highly unlikely that we can achieve a similar level of integration and coordination among our land, sea and air forces. Total size of U.S. forces and lack of daily survival pressures militate against our ability to overcome human and organizational biases. Therefore, U.S. forces should seek revolutionary ways to achieve maximum joint force effectiveness and not waste efforts in thinking a level of integration in the Israeli context can be achieved for all U.S. forces. The pragmatic requirement for effective joint force war fighting capability is not debated, but the U.S.

should orient its joint service integration efforts to joint service commands sized similarly to the U.S. Central Command. It then becomes obvious, based on Israeli history, that such joint service commands must operate "daily" under "pressure" to even come close to achieving the level of smooth, effective integration of war fighting evident in the IDF.

Quality vs Quantity

The Israelis probably could have achieved air superiority in the Bekaa Valley with a much less sophisticated and considerably less expensive air force. It is doubtful, however, that they would have achieved the level of effectiveness (81 fighter kills), efficiency (zero losses) and timeliness without the aid of advanced technology of the F-15, F-16, and F-4 aircraft; AIM-7F and AIM-9L missiles; and integrated complex C^3I systems. Obviously, the results of this single air battle do not provide the basis upon which to make sweeping generalizations about the outcome of possible U.S.-Soviet air forces engagements, but it is difficult to ignore the general implications that qualitative superiority can be a very cost effective "force multiplier" in the air combat arena.

In a similar vein, the IAF probably could have carried out its surface attack missions without the aid of computerized aircraft delivery systems and high technology precision guided munitions. Again, however, it is doubtful if the pinpoint accuracy demanded for

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surgical attacks in "urban terrain" during the siege of Beirut or the selective destruction of SAM guidance systems in the Bekaa Valley could have been accomplished so effectively in the absence of this qualitative edge. This same argument can be made for the quality of Israeli ground and naval forces.

It is imperative that U.S. force planners maintain a focus on providing appropriate levels of high quality, sophisticated weaponry. To do otherwise will deny field commanders the capability to provide a broad spectrum of military options that can accommodate corresponding array of political constraints.

Innovative Application of Technology

Israeli successes in combat were sparked by the innovative tactical application of "off-the-shelf" technology. The emphasis was not so much on the introduction of new technology as it was on new ways of employing already existing weapons and equipment capabilities. Two examples of this type of innovation were the use of RPVs and ground launched ARMs. Such a capability appears attractive for U.S. forces in search of efficient means of accomplishing similar missions with limited air resources. The concept may have even broader applications when viewed in the context of a European scenario in which Soviet forces attempt to maintain a SAM umbrella well within missile range of U.S. ground forces. Taken one step further, the integration of sea launched ARMs to suppress land based SAMs raises

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interesting possibilities in force projection scenarios involving U.S. Navy and Marine forces.

Force Flexibility

The IAF's ability to rapidly re-role aircraft and to divert air resources from one mission to another enabled the IDF to focus essentially all of its airpower on the most pressing priority mission. This same flexibility was demonstrated by the INF in the performance of a variety of missions and by Israeli ground forces in overcoming unexpected obstacles, terrain and unconventional enemy forces. U.S. battle management staffs should develop this flexibility--psychologically and physically--for the most optimum employment of all forces in combat.

Conclusion

General Andre Beaufre, a noted French strategist, was quoted as follows in Paris Match, June 24, 1967, with regard to the IDF conduct of the 1967 Middle East war:

> The recipes used are all well known: Surprise,
> resolve and speed, air superiority, a large degree
> of decentralization of command, ardent troops
> unencumbered by the complex of rigid and
> inhibited actions which still prevails all too often
> in the European, and even the American armies,
> a simplified logistics system. The utmost
> maneuver is thus made possible....

The IDF demonstrated once again in Lebanon an adherence to military doctrine and fundamentals in the preparation for and execution of

combat operations. Few mistakes were made and the results were highly impressive and successful. There is no question that the Israeli attitude that promotes a national drive for constant improvement of its forces, proper utilization of combat experience and leadership, detailed planning and coordination, and an aggressive determination toward the accomplishment of military objectives is the very basis of their success in combat. U.S. forces should adhere to these same principles and should receive the necessary national support to maintain a similar level of combat readiness.

South Lebanon
& Vicinity

——— International boundary
—·— Israel-Jordan/Lebanon/Syria Armistice
Line (20 July 1949)
—··— Demilitarized Zone Limit
(20 July 1949)
····· All-weather road
····· Unsurfaced road or vehicle track
—— Railroad
✈ Airfield
Built-up area
· Israeli settlement

Transverse Mercator Projection
Spot elevation in meters

15 Miles
15 Kilometers

503160 3-77

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APPENDIX B

HISTORICAL BACKGROUND OF THE ISRAELI ARMY

The foundation of the Israeli Army was laid before Israel became a state in 1948. During the tumultuous years of the Palestine Mandate, Arab envy and resentment of the increasingly numerous and prosperous Jewish settlements led to Arab attacks on those settlements. To protect their lives and property the Jews formed several armed defense groups. At first these groups were strictly defensive. However, as Arab attacks increased in frequency and ferocity, the Jews made intensive efforts to increase the offensive competence of their defense forces. Lacking any definitive military tradition, they drew on the varied military background of the immigrant Jews from both eastern and western Europe. In addition, for a brief period, the British authorities who governed the Mandate also provided military assistance in the form of arms and advisors. The most important advisor, from the Jewish perspective, was Orde Wingate (later a general in the WWII Burma campaign). His expertise and prestige as a military professional led to the development of a highly competent force of Jewish light infantry that specialized in night operations. With this force the Jews began to exact retribution on the Arabs whenever they attacked Jewish settlements.

Eventually, and because of a variety of political and procedural

disagreements within the Jewish community, three distinct military

groups developed. Each had its own political philosophy and tactical

methodology, but all were innovative in their approach to military

operations. Eventually the three groups were melded to form the

Israeli Army. These groups were the:

- Haganah

- Irgun Zvai Leumi (National Military Organization) (shortened
to Irgun).

- Lohamie Herut Israel (Fighters of the Freedom of Israel)
(shortened to Lehi, but also known as the Stern Group).

The Haganah was the first formed and by far the largest of the

three groups. Created as the military wing of the Labor-Zionist

movement in Palestine, its approach to the protection of Jewish

interest in Palestine, was, in general, defensively oriented. Between

its birth in the 1920's and the establishment of Israel in 1948, the

Haganah evolved into an increasingly professional force. In 1939, a

Supreme General Staff was formed to direct the military development

of the Haganah and plan for future military operations.[1] The establish-

ment of the General Staff coupled with the experience gained by Jewish

forces with the British in World War II proved to be key factors in the

Israeli victory during the War for Independence in 1948.

The other two military organizations cited above, the Irgun and Lehi,

were much more aggressive in protecting Jewish interests in Palestine

than the Haganah. Both these groups carried out terrorist attacks against the British and the Arabs. Some were considered so extreme that the Jewish Agency, which functioned as an underground Jewish government in Palestine, sought through the use of both persuasion and force to bring these two groups back into the mainstream of its defensive policy. These actions were unsuccessful, however, until after Israel was formed as a state. And even then the fractiousness of the Irgun was so disruptive that civil war within the Jewish community was a real possibility.

The threat of civil war was eliminated, however, through a combination of expert political leadership and the immediate Arab threat.[2] These two factors served to fuse the military experience and expertise of the Haganah with the drive and fierce aggressiveness of the Irgun and Lehi.

However, even while these efforts to reduce internal friction were occurring, all forces were increasingly active in fighting the Arabs that shared the Palestine Mandate with the Jews. This fighting continued from 1947 through 1949. It intensified on 15 May 1948. On that date Israel became a state and five Arab armies crossed its borders.

In its war for independence, Israel's most significant weakness, at least initially, was its shortage of heavy weapons, armor, and combat aircraft. To offset this weakness the Israelis had the following strengths:

- An experienced General Staff to provide centralized direction
of the armed forces.

- Interior lines of communication.

- Officers and enlisted men with combat experience in World
War II.

- A high level of motivation and cooperation at all levels.

With these advantages the Israelis were able to move their forces
more efficiently and effectively than the Arabs. Consequently, they
were able to achieve battlefield superiority at decisive times and
places of their own choosing. Then, tactical innovation and daring
were used to overcome the equipment superiority of the Arabs. This
approach worked well in almost all instances except where the Arabs
were able to establish a set-piece defense. When that occurred, the
Israelis usually suffered heavy casualties. It was a lesson well learned,
and it would play an important part in the development of Israeli
doctrine.

As the war progressed, a well organized, world-wide weapons
procurement program brought a broad range of badly needed weapons
to the army. With characteristic adaptability, these were modified
where needed and quickly brought into decisive use on the battlefield.

Viewed in retrospect, the War for Independence was essentially
a scramble for better weapons and a search for battlefield doctrine and
techniques that would be successful against Israel's adversaries. The
Israelis won that war because, overall, they demonstrated better

organization, initiative and leadership on the battlefield than their opponents. These characteristics were evidenced by four techniques that have come to characterize Israeli forces:

- Careful, thorough planning at the highest levels.

- A command doctrine that "left the details of tactics and methods to the discretion of unit commanders, so long as they achieved their objectives."[4]

- Leadership that called for officers to "pull" their men after them rather than push them from the rear.[5]

- The use of darkness to cover troop movements and assaults on enemy positions.

Israeli victory on the battlefield resulted in the Armistice of 1949. However, it was readily apparent that despite the armistice, the Arab powers were still intent on the destruction of Israel. Acknowledging that intent, the leadership of the Israeli Defense Force (IDF) began a complete review of the strategic, doctrinal, tactical and organizational requirements of the IDF.[6] "Instead of preserving the fairly successful Army of Independence, new structures and new doctrines were formulated on the basis of rational thought."[7]

That review revealed the following factors concerning Israel's geo-political situation:[8]

- Due to its size, it has no strategic depth, and it is surrounded by enemies.

- Its armed forces will continue to be outnumbered by the combined Arab armies.

- Once a conflict starts, the time available to its armed forces to achieve assigned objectives will be limited by great power politics (i.e., the pressures exerted by the United States and the Soviet Union to end the conflict).

Those conclusions led to the following requirements that continue to drive the structure of the IDF today:

- The ability to quickly mobilize the entire society in order to meet the threat of war.

- Qualitative superiority (doctrine, manpower, and equipment) of the IDF that will allow it to concentrate and shift its forces rapidly on the battlefield.

- An alert system that will provide adequate warning of an enemy attack.

- An operational doctrine that will compensate for the lack of strategic depth.

To satisfy those requirements the IDF General Staff restructured the organization and doctrine of the armed forces as follows:

- The ground force was structured around an active, highly trained reserve force. As the IDF Chief of Staff said, "Every civilian is a soldier on eleven months' annual leave."[9] The standing ground force during peacetime would serve mainly as an experienced

cadre to provide high quality training for the conscripts used to maintain the strength of the reserve units. Standing forces would also include the intelligence, air force and naval components of the IDF The air force was needed as a swiftly moving covering force that would protect the ground force during the mobilization period. The naval component was also needed as a mobile covering force and to maintain a naval presence at sea. The intelligence component was needed to provide sufficient early warning of an attack so that all forces could be alerted and the ground force mobilized. To give the ground force greater staying power in the field, the self-contained brigade was made the primary unit of military operations. In addition to three combat battalions of infantry or armor, the brigade included an appropriate contingent of service and support units.[10] This reorganization helped provide for a mobile, armored army capable of operating simultaneously on more than one front and of carrying the battle swiftly into the enemy's territory.[11]

These fundamental changes in organization and doctrine, while sensible, were not implemented easily.

- The doctrine of the IDF was developed to emphasize the offensive. Lacking strategic depth, it was essential that the armed forces strike deep into enemy territory for several reasons:[12]

-- To spoil enemy attempts to seize vital population, economic or industrial centers in Israel.

-- To gain advantages for use in future negotiations.

-- To reduce casualties and loss of equipment.

-- To obtain a favorable outcome before the great powers can force a cease fire.

-- To maintain national morale.

Resource constraints and competition for resources severely slowed the process of change. However, by the time the IDF went to war again in 1956 it had completed the task. In all following conflicts with the Arabs up to the present, those changes and the observations on which they were based remained valid. This is not to say that the structure and doctrine of the IDF remained static, but only that further change was a matter of emphasis and degree rather than one of fundamental concepts.

For example, the 1956 war, despite the availability of armored forces, was fought primarily with mobile infantry forces. The air force acted primarily as "flying artillery" for the ground forces. The IDF was able to strike fast and deep into enemy territory in the Siani, but many formations were plagued by serious "flaws and shortcomings in the sphere of supply, communications and transport."[13] To correct these deficiencies and improve its capabilities, the IDF again thoroughly reviewed its performance. In the "give and take" of that debate, it decided to increase the role of armor in the ground forces and to allocate the necessary means to improve the quality of service

support. In addition, heavy emphasis was placed on the quantity and quality of training provided at all levels of the IDF. These changes paid off handsomely in the 1967 war.

In six days in 1967, the Sinai, Judea, Samaria and the Golan Heights were captured, much of the Egyptian army and air force were destroyed, and the Jordanian and Syrian armies were thoroughly defeated. All this was achieved at a relatively small cost in casualties, fewer than 700 dead and 3000 wounded.[14] The magnitude of the victory surprised the Israelis. The pre-emptive air strike that virtually destroyed the Egyptian air force and the combination of air force and armored strikes on the battlefield proved more successful than they thought possible. With the complete air superiority and ground air support provided by the IDF air force, the armored forces operated and advanced almost as a separate entity. Mechanized infantry forces were mostly confined to mopping up operations. This technique seemed invincible. The completeness of the victory led General Sharon three days afterward to state, "We managed to finish it all...we have now completed every-thing in such a way that the enemy is not going to be able to fight for many years to come."[15]

However, the brilliance of the victory did not lull the IDF into complaisance. Battlefield performance was again critiqued to correct perceived weaknesses. One of the principal changes concerned the self-contained brigade. Study of the battlefield revealed that such brigades

no longer operated alone on the battlefield. All the decisive engagements were now fought at the "ugda" (roughly divisional) level. Given the battles fought then and probably in the future, the brigade no longer had the strength to operate independently. Consequently, the IDF organization was changed to reflect that reality. Henceforward, self-contained, task organized "ugdas" would replace the brigade as the primary ground force in the IDF.

In addition to that structural change, there was also considerable debate over the wisdom of armored forces acting unilaterally on the battlefield well in advance of their mechanized infantry and artillery support. However, those arguments could not prevail against the victory of the 1967 war. Most of the IDF seemed to believe that the Arabs simply could not stand for long in front of an unsupported Israeli armored assault. Israeli confidence had given way to hubris. That hubris led the IDF to seriously underestimate the capability and determination of their Arab enemies and their chief supporter, the Soviet Union.

Within months of the Arab defeat in 1967, massive amounts of sophisticated Soviet military hardware were transported to the Arab confrontational states. This transfusion not only made good the losses of the 1973 war but actually increased the military strength of the Arabs. To offset that gain, Israel also built up her forces with modern equipment. Some of this was built inside Israel using the

spoils of the 1967 war, other equipment was procured from the
United States and other countries. In addition, the length of male
conscript service was increased to three years and the annual period
of reserve duty was increased from one to two months per year for
some combat troops.[16] These precautions all seemed adequate to
contain the Arab threat. However, their economic cost was enormous
for Israel. To contain those costs and to retain the good will of its
principal benefactor, the United States, Israel decided against a pre-
emptive strike against the Arab states. Instead she decided to gamble
that her new territorial acquisitions and her clear military superiority
over the Arabs would be an adequate buffer gainst a future attack.
That gamble proved ill-advised.

After months of building their forces along Israel's border and con-
ducting endless attack feints, the Egyptian and Syrian armies attacked
on 6 October 1973, the day of Yom Kippur. The attack caught the IDF
by surprise both strategically and tactically. For the first three
days of the battle the IDF skated along the edge of defeat. Massive
Israeli tank attacks in the Sinai were ambused with Saggar anti-tank
missiles and defeated. When the IAF went in to protect the tanks,
an integrated anti-air umbrella of missiles and small-arms fire
destroyed the air attack and inflicted severe losses. Two factors
saved the IDF from defeat: The superb resiliance, adaptibility and
training of its forces and the inflexibility and unimaginative tactics
of the Arabs. Once the IDF realized that its armored assaults could

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not be successful without additional artillery fire and infantry support, it quickly task organized its forces so that all future assaults combined tanks with mechanized infantry and artillery. Once these assaults punched through the enemy ground forces, the fixed anti-air missile and small-arms installations were overrun or forced to displace. This action allowed the air force to provide air cover against Arab air attacks.

Using that basic tactical approach, the IDF won their victory and preserved Israel's territorial gains from the 1967 war. However, it was a much shaken IDF that set about reviewing the results of the Yom Kippur War. The hubris created by the 1967 victory had been replaced by a healthy respect for the Arab forces. The price for that lesson was formidable: nearly 3000 dead or 11,000 total casualties in 19 days of war. On the basis of population, it would be equivalent to the United States suffering 132,000 dead or 543,000 total casualties.[17]

That experience led to a close look at IDF doctrine and operational procedures. The critique revealed that,fundamentally, the doctrine and structure of the IDF were sound. However, some operational procedures, derived principally from the 1967 war, but also from an underestimation of Arab capabilities, needed correction. First, it was obvious that tank forces could not operate in isolation on the modern battlefield. A combined arms approach was necessary for success. As a result, the proportions of artillery and mechanized infantry to tanks were drastically increased in the IDF.[18] Second, it was also

apparent that the achievement of air superiority over the battlefield would increasingly rely on a combination of two factors:

- Imaginative use of electronic countermeasures to overcome the anti-aircraft threat.

- The use of ground forces to either overrun or force the displacement of anti-aircraft sites.

In summary, it was clear that the IDF must achieve both a better integration of its ground, air and naval forces and maintain or improve the technical sophistication of its weapons if it was to maintain its clear superiority on Arab battlefields. The fulfillment of these requirements bore directly on the success of the ground force in Operation Peace for Galilee.

APPENDIX C

OPERATION PEACE FOR GALILEE; THE BATTLE

Operation Peace for Galilee became known to the world
as a 20,000-man Israeli force invaded Lebanon on Sunday,
6 June 1982. Israel invaded with a massive, combined arms
attack launched along three separate axes of advance. So
powerful and well coordinated was the invasion, that by
the 14th of June, only eight days after the preemptive
strike was launched, Israeli defense forces (IDF) completed
the encirclement of Beirut, destroyed the PLO infrastructure
in southern Lebanon, and dealt Syria a harsh battlefield
defeat.[1]

The Israelis had seven years to prepare for this inva-
sion and did so in earnest during the last 12-18 months
prior to the conflict.[2] Tactics were tailored to the threat.
Emergency stores were filled and support forces readied.
Once again the Israeli military achieved success. Moreover,
every objective set by the IDF was obtained.[3]

As Israeli assault forces crossed the Lebanese border,
the impressive coordination of IDF combined arms support
became immediately obvious. A large scale air attack quickly
secured IAF supremacy of the skies and was followed by total
integration of air support with the advancing Isareli ground
forces. Close air support to soften ground objectives and
assault helicopter support were combined with massed artillery

fires, amphibious assaults and naval gunfire to maintain the
IDF's momentum northward. One Israeli force punched west,
then north along the sea towards PLO strongholds of
Rashidiyah and Tyre. Central axis forces rolled towards the
PLO vantage point of Beaufort Castle and then northward
blocking the western side of the Bekaa Valley effectively
stopping any Syrian attempt to reinforce the PLO to the west.
The third Israeli ground force opened an eastern front and
headed straight into the Syrian stronghold of the Bekaa Valley

The coastal ground assault was swift as the IDF closed
on the port of Tyre during the first day. Simultaneously,
amphibious and heliborne assaults surprised the PLO defenders
by placing troops and even tanks in blocking positions as far
north as the Zahrani River. By Tuesday 8 June, though
drastically constrained by terrain, the Israeli armored column
with its continuing combined arms support fought its way
through Sidon and on towards Damur and therein initiated the
collapse of the PLO infrastructure.[4] Behind the IDF's advance
however, PLO fighters were left for mopping up operations by
follow-on forces. On Wednesday, bypassing a determined and
barricaded PLO force at Sidon, another Israeli amphibious
landing was attempted at Khaldah but was repulsed by PLO
defenders. The Israeli speed of advance slowed on 10 June as
Israeli coastal forces now cautiously moved north and east of
Damur into Beirut suburbs.[5]

The coordination of all arms of the Israeli military machine was as impressive along the central axis as it was on the coast. On 6 June Israeli planes bombed the PLO stronghold of Nabatiyah. This action was followed by commandos of the Golani Brigade capturing the important Beaufort Castle in a night attack. By Tuesday, 8 June the central column, moving up the interior, threatened Syrian control of the Beirut-Damascus Road. Two days later, after particularly difficult fighting, the IDF was only a few kilometers from this road, which served as a major logistical route for the Syrians.[6]

On Monday 7 June, the Israelis moved swiftly on the eastern flank catching Syria unware. For the first time, Israeli ground forces met Syrian patrols in minor skirmishes. In a coordinated air-ground offensive on 9 June, the Israelis attacked Syrian missile sites and tank positions in the Bekaa Valley and successfully destroyed the missile threat. On Thursday, 10 June, while the IAF continued its elimination of all missile batteries in the Bekaa, IDF ground forces inflicted serious losses on Syrian forces in the south of the valley forcing them to retreat north of Lake Al Qir'awn.[7]

During 11-13 June, the IDF consolidated its encirclement of Beirut while mopping up efforts continued along all axes. By the 14th of June the encirclement was complete. The Lebanese presidential palace at B'abda was occuppied with

the Israeli Defense Minister Sharon in personal command, and the Beirut-Damascus link was cut. Israeli forces now moved within two kilometers of the Sabra and Shatila Palestinian camps, and took control of the airport. The military battle was, in essence, over.

Two distinctly separate campaigns had been fought in Lebanon: one against the PLO and another against the Syrians.

The PLO campaign itself had two stages; the first in the central and coastal regions south of Beirut and the second in the Beirut area. South of Beirut, the PLO was destroyed rather easily. This was an unambiguous PLO defeat despite their infrastructure, numerous weapons, and semi-regular units Pitted against a few thousand unorganized guerrillas came the modern Israeli armed forces with plentiful armor, artillery and air power. Though it can be argued that this was an easy Israeli victory, it was also a Palestinian failure. The PLO had been unable to properly employ its assets. They failed in the use of their artillery and tanks, thousands of mines went unused, and bridges along the Israeli axes of advance were not destroyed. What the PLO initially faced was a vanguard of the IDF that was ordered to head north toward Beirut without stopping. If fired on the Israelis were to return fire but press on.

PLO forces were ill prepared for such conflict. Israeli ground forces won their initial victories against less than 8,000 PLO guerrillas whose training, leadership and tactic

were poor. As an example, the battle for Beaufort Castle
involved some of the most bitter initial fighting of the
invasion. PLO defenders initially numbered about 200 yet
only 30-40 remained when it was captured.

During the second stage of PLO fighting (Beirut area),
the battle took a different form. The PLO had regrouped
and successfully stood its ground despite massive artillery
and air attacks. Israeli ground forces never forcefully
entered the city to destroy their enemy, but the Israeli
siege and military and psychological pressures finally
forced PLO removal from Beirut.

The second campaign was fought against the Syrians.
Though capable, the Syrian army fought seriously only when
it felt Damascus was threatened and even then, Syrian armor
retreated up the Bekaa Valley the moment it began to take
significant losses. The fighting between Israel and Syria
for control of the Beirut-Damascus Road appeared more a
Syrian test of the seriousness of Israel's intentions than
a battle for a strategic position.

In the Bekaa, the battles were limited in duration and
scope. Neither side deployed more than a fraction of their
available forces. While keeping pressure in the south of
the valley, the IDF repeatedly outflanked Syrian defenders
by deploying helicopter lifted tank-killer teams to superior
tactical positions.

In both campaigns (PLO and Syrian) and along all three
axes of advance, Israeli attackers bypassed and isolated
enemy held built up areas. No effort was made to reduce
them initially. Instead artillery and air suppressed enemy
fire while IDF maneuver forces continued their advance north-
ward. Follow on forces were designated to reduce the
remaining resistance. Israeli casualties were kept to a
minimum in these operations so few frontal assaults were con-
ducted. Instead, the attackers advanced until serious
resistance was met and then massed air, artillery and/or
tank fire on the target. Often in concert with massed
supporting fires, special operations such as amphibious
landings or heliborne assaults enveloped built up areas and
blocked enemy retreat. Once resistance was reduced the
advance proceeded as before until the process had to be
repeated. Israeli city fighting proved as deliberate as
their breakthrough battle strategy, yet, as mentioned before,
efforts were made to minimize civilian casualties.

When ground forces, supported by off shore Israeli naval
forces, had completed encirclement of Beirut, the IDF
strategy changed. No military objectives within the city
were specified, according to the IDF Chief of Staff.[8] Rather,
Beirut's surrounding hilltops were seized and main supply
routes to and from the city were choked off.

From the 15th of June until the final PLO and Syrian
withdrawal from Beirut on September 3rd, the IDF settled

into consolidation operations. Lebanon became a political football typified by heavy IDF artillery, air and naval gunfire bombardments of selected Beirut targets, by cease-fires, and by proposals, counter-proposals and international criticism of Israel.

The IDF had swiftly fought across difficult, mountainous and constraining terrain and through built up areas. It fought well equipped but untrained PLO guerrillas. More-over, it fought against a standing Syrian army supported by armor, a sophisticated air defense system, modern Soviet weapons, and deadly anti-tank commando squads. It was a limited conflict with a single front, conducted in fair-weather and over an area smaller than the size of Luxemburg. Once again the IDF stood successful on the field of battle and every military objective was achieved.[9] Perhaps it was not a true contest of military skills since opposing forces were so unequal. Nonetheless, it was a superbly executed military success; one based on well conceived doctrine and strategy securely linked to national goals.

APPENDIX D

EVOLUTION OF THE IAF[*]

Background

The Israeli Air Force (IAF) achieved unprecedented
victories during Operation "Peace for Galilee." It is now
a modern, mature organization which has evolved steadily
during decades of low intensity combat punctuated by
three major wars. The factors which shaped the IAF's
evolutionary development through the years are many and
varied, but four assumed special significance and had great
bearing on the outcome of the 1982 campaign.

Pre-eminence of the Air-to-Air Combat Role. Even
though the IAF has demonstrated its ability to perform many
diversified missions, there is clearly a sharper focus on
the air-to-air combat/air defense role than on any other
single task. This pre-occupation with air superiority is
seated in the nation's continuing precarious geo-political
situation. Israel's neighbors are hostile, they possess
formidable military capability, and their close proximity
to major Israeli population/industrial centers makes the
country vulnerable to enemy air attack. By necessity the
maintenance of air superiority over the homeland occupies
a dominate position among Israel's top defense priorities.

Force structure, personnel and policies of the IAF
clearly reflect this national emphasis on air combat

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capability. A review of the Israeli air order of battle (AOB) indicates that no expense has been spared in procuring the very best air-to-air combat aircraft available--the F-4, the Mirage, their own KFIR, the F-15 and most recently the F-16. Only the best pilots and weapon systems officers are assigned duty in new aircraft committed to the air superiority mission. Each has to earn such an assignment by proving his capabilities first in older aircraft employed primarily for surface attack.

For much the same reasons, the Israelis have placed great emphasis on developing and maintaining an effective command, control, communications and intelligence (C^3I) system. Their streamlined procedures insure both timely dissemination of information and rapid response of air defense forces. Here again, only top notch people are entrusted with critical responsibilities such as those of Ground Controlled Intercept (GCI) for which officers must be highly skilled. Israeli fighter pilots have great respect for GCI controllers and follow their directives diligently.

Air Doctrine. At the beginning of the 1967 "Six Day War," the IAF conducted pre-emptive air strikes which destroyed a large number of enemy tactical fighters on the ground and essentially neutralized the Arab's surface-to-air missile (SAM) threat. The success of these early offensive counter air (OCA) and defense suppression (DS) operations

cleared the way for Israeli Defense Force (IDF) ground units to pursue their objectives without the threat of enemy air attack and with the almost unhampered assistance of friendly air support. In fact, the pre-emptive strike strategy proved to be so successful that the IDF based subsequent doctrine and force development efforts on the perception that the 1967 scenario could be "replayed" at will to achieve similar results should the Arabs ever doubt the "invulnerability" of the Israelis again.

The Arabs, on the other hand, learned many valuable lessons from Israeli success. They gained additional appreciation for the effectiveness of the pre-emptive attack strategy and recognized that the Israeli's over confidence in a predominately offensive scenario significantly increased in the IDF's vulnerability to a reciprocal surprise attack. Thus, the Arabs began preparations which culminated in a well conceived and executed offensive at the opening of the 1973 Yom Kippur War.

The Israelis were caught in October 1973 in a peacetime posture and initially faced overwhelming numerical opposition in defensive battles on two fronts. IAF resources were dedicated immediately to close air support in an effort to slow rapidly advancing enemy armor which was inflicting unacceptable losses on Israeli ground forces. Without the opportunity to conduct pre-emptive or collateral OCA operations, the IAF was forced to conduct close air support

in an extremely hostile environment rife with sophisticated surface-to-air missile systems (SAM), anti-aircraft artillery (AAA) and enemy fighter aircraft. The Israelis suffered inordinately heavy air casualties during the early stages of the war and were able to stem their losses only after the ground war situation had improved and air assets could be spared to neutralize enemy air defense systems. Although the IDF subsequently recovered from the initial setback and eventually resecured all the territory that had been won in 1967, a thorough review of the nation's defense strategy was clearly in order.

As a result of the 1973 war experience, close air support and interdiction were subordinated to air superiority and defense suppression in the order of air operations priorities, and planners were informed that IAF resources would most likely not be made available for close air support during the early stages of future Arab-Israeli wars.

Conservation of Resources. The Israeli's limited ability to produce/replace personnel, materiel and financial resources--particularly when compared to their Arab adversaries--has forced them to emphasize both conservation and efficient utilization of resources in every endeavor. As a result, they have developed perspectives and methods which some western observers consider unique but essential. For example, captured equipment is often adapted for IDF use. Older systems are modified to combat the capabilities or

exploit the vulnerabilities of new enemy threats. And, the development and application of new tactics which employ existing systems to gain an advantage is the rule rather than the exception. For the Israelis, the acquisition of new systems which provide the "force multiplier" effect through the application of advanced technology is a mandatory investment, even though the cost of "quality" may require a sacrifice in "quantity." They are committed to procuring modern equipment which is the most efficient for their particular requirements.

Combat Leadership. Combat leadership is fundamental to the IAF. Strong national support for the military and a history of fighting for survival form the basis for a system which promotes proven combat veterans to command positions and thrusts young aviators into combat at every appropriate opportunity. Having instituted this system to select only the most seasoned leaders for supervisory responsibilities, there is substantial flexibility in the IAF system for commanders to exercise judgement and initiative in their leadership role. Furthermore, higher echelons of command have great confidence in their subordinates in the field and respond accordingly to their requests and recommendations. It is important to note that an Israeli commander's effectiveness may well be judged more on his ability to limit casualties than on his rate of advance or ability to hold a position on the battlefield.

*Note: Information contained in this appendix has been synthesized from multiple sources, including interviews with Department of Defense and Israeli military officials. It has been declared unclassified for publication in its present form by the Defense Intelligence Agency. That agency should be contacted for more detailed classified information pertaining to Israeli air operations in the 1982 war in Lebanon.

NOTES

CHAPTER I

1. "Israeli Strike: New Test For U.S.," U.S. News and World Report, 21 June 1982, p. 16.

2. Ibid., pp. 14-15.

3. Avraham Adan, On the Bank of the Suez (San Rafael, Calif.: Presidio Press, 1980), p. x-xii.

4. M. Rosen and Y. Eshkol, "The War Around Beirut Is a Fight for Eretz Yisra'el," Tel Aviv BAMAHANE, U.S. Joint Publications Research Service - Middle East and North Africa (hereafter JPRS/MENA). No. 81377 (Washington: 27 July 1982), p. 47.

5. Anthony H. Cordesman, "The Sixth Arab-Israeli Conflict: Military Lessons for American Defense Planning," Armed Forces Journal International, August 1982, p. 28.

6. Ibid.

NOTES

CHAPTER II

1. Edward Luttwak and Don Horowitz, The Israeli Army (New York: Harper and Row, 1975), p. xii.

2. Ibid.

3. Y. Inspector, "Complete Air Superiority," Tel Aviv BAMAHANE. JPRS/MENA No. 81880 (Washington: 29 September 1982), p. 82.

4. M. Barqay, "We Can Prevent a War of Attrition," Tel Aviv DAVAì JPRS/MENA No. 81855 (Washington: 27 September 1982), p. 93.

5. Y. Ha'elyon, "Armored Corps Commander Reviews Battle Lessons - Future Moves," Tel Aviv MA'ARIV. JPRS/MENA No. 82023 (Washington: 19 October 1982), p. 90.

6. "A Terrible Swift Sword," Newsweek, 21 June 1982, p. 21.

7. A. Peleg, "Electronic Sophistication Behind the Destruction of Syrian Rockets in Lebanon," Tel Aviv MA'ARIV. JPRS/MENA No. 81555 (Washington: 17 August 1982), p. 96.

8. "Performance of Israeli-Made Pilotless Plane," Jerusalem Domestic Television Service. JPRS/MENA No. 82297 (Washington: 22 November 1982), p. 47.

NOTES

APPENDIX B

1. Trevor M. Dupuy, Elusive Victory: The Arab-Israeli Wars, 1947-1974 (New York: Harper and Row, 1978), p. 6.

2. Edward Luttwak and Don Horowitz, The Israeli Army (New York: Harper and Row, 1975), pp. 38-39.

3. Dupuy, p. 19.

4. Luttwak and Horowitz, p. 54.

5. Ibid., p. 61.

6. Israel Tal, "Israel's Defense Doctrine," Military Review, LVII (March, 1978), pp. 22-37.

7. Luttwak and Horowitz, p. 89.

8. Gideon Avidor, "From Brigade to Division," Military Review, LVII (October, 1978), pp. 64-71.

9. Luttwak and Horowitz, p. 79.

10. Ibid., p. 13.

11. Avidor, p. 65.

12. Tal, p. 25.

13. Edgar O'Ballance, "The Israeli Campaign in the Sinai, 1956," The Army Quarterly (British), LXXIV, No. 1 (April, 1957), pp. 40-51.

14. Luttwak and Horowitz, p. 282.

15. Ibid., p. 299.

16. Ibid., p. 327.

17. Dupuy, p. 603.

18. Ibid., p. 595.

NOTES

APPENDIX   C

1. "Israeli Invasion of Lebanon," Foreign Broadcast Information Service, Middle East and Africa (hereafter FBIS/MEA) 82-104, Vol. V, No. 114, 14 June 1982.

2. Anthony M. Cordesman, "The Sixth Arab-Israeli Conflict: Military Lessons for American Defense Planning," Armed Forces Journal International, August 1982, p. 28.

3. M. Rosen and Y. Eshkol, "The War Around Beirut Is a Fight for Eretz Yisra'el," Tel Aviv BAMAHANE. JPRS/MENA No. 81377 (Washington: 27 July 1982), p. 47.

4. "A Terrible Swift Sword," Newsweek, 21 June 1982, p. 22.

5. "Tightening the Noose," Time, 28 June 1982, p. 19.

6. "Israel Strikes at the PLO," Time, 21 June 1982, p. 14.

7. FBIS/MEA-82-113, Vol. V, No. 113, 11 June 1982, p.i.

8. Rosen and Eshkol, p. 47.

9. Cordesman, p. 28.

BIBLIOGRAPHY

Adan, Avraham. On the Bank of the Suez. San Rafael, Calif:
    Presidio Press, 1980.

Arons, Leroy. "Agony of the Innocents." Time, 28 June 1982,
    pp. 20-22.

"A Terrible Swift Sword," Newsweek, 21 June 1982, pp. 21-26.

Avidor, Colonel Gideon. "From Brigade to Division," Military
    Review, LVII, October 1978, pp. 64-71.

Barqay, M. "We Can Prevent a War of Attrition," Tel Aviv DAVAR.
    JPRS/MENA No. 81885 (Washington: 27 September 1982),
    pp. 93-97.

"Begin Explains Operation Peace for Galilee Motives," FBIS/MEA,
    25 August 1982, pp. I11-I15.

Bender, David. "Ordnance Chief Discusses Merkava Tank," Tel Aviv
    BAMAHANE. JPRS/MENA No. 82199 (Washington: 9 November
    1982), pp. 38-41.

Bloom, James J. "The Six Days-Plus-Ten-Weeks-War: Aspects of
    Israel's Summer Campaign." Middle East Insight, pp. 45-55.

Congressional Quarterly Inc. The Middle East. Fifth Edition.
    United States, 1981.

Congressional Research Service. Israeli-American Relations.
    Issue Brief No. IB 82008. 15 July 1982.

Congressional Research Service. Lebanon: Israeli-Palestinian
    Confrontation. Issue Brief No. IB 81090. 9 September 1982.

Cordesman, Anthony H. "The Sixth Arab-Israeli Conflict: Military
    Lessons for American Defense Planning." Armed Forces
    Journal International. August 1982, pp. 28-31.

Dupuy, Colonel Trevor N. Elusive Victory: The Arab-Israeli Wars,
    1947-1974. New York: Harper and Row, 1978.

Fishman, Alex. "The Defense Budget - Not a Cut but a Reapportion-
ment," Tel Aviv 'AL HAMISHMAR. JPRS/MENA No. 81258
(Washington: 12 July 1982), pp. 63-65.

Furlong, R. D. M. "Israel Lashes Out." International Defense
Review, August 1982, pp. 1001-1007.

Ha'elyon, Y. "Armored Corps Commander Reviews Battle Lessons -
Future Moves," Tel Aviv MA'ARIV. JPRS/MENA No. 82023
(Washington: 19 October 1982), pp. 90-97.

Halperin, Meyra. "Air Force Discusses Lebanon's Battles,"
Tel Aviv BITA'ON HEYL HA'AVIR. JPRS/MENA No. 82117
(Washington: 29 October 1982), pp. 109-112.

Harkavy, Robert. Preemption and Two-Front Conventional Warfare:
A Comparison of 1967 Israeli Strategy with the Pre-World War
One German Schlieffen Plan. Jerusalem: Jerusalem Post
Press, 1977.

Heiman, Leo. "Israel's Home Defense," Ordnance, November-
December 1967, pp. 252-257.

Heiman, Leo. "The Israeli Reserve Force," The National Guardsman,
August 1966, pp. 14-20.

"IDF Commanders Discuss War Goals, Accomplishments," Tel Aviv
YEDI'OT AHARONOT. JPRS/MENA No. 82434 (Washington:
9 December 1982), pp. 94-114.

Insight Team of the London Sunday Times. The Yom Kippur War.
New York: Doubleday and Company, Inc., 1974.

Inspector, Yoram, "Complete Air Superiority," Tel Aviv BAMAHANE.
JPRS/MENA No. 81880 (Washington: 29 September 1982),
pp. 82-88.

International Symposium, Jerusalem. Military Aspects of the Arab
Conflict. Tel Aviv: University Publishing Projects, 1975.

"Israeli Strike: New Test For U.S." U.S. News and World Report,
21 June 1983.

"Israel Strikes at the PLO," Time, 21 June 1982.

Lemoyne, James. "Suffer the Children." Newsweek, 28 June 1982,
pp. 25-27.

Lorch, Netanel. One Long War: Arab versus Jew Since 1920.
Jerusalem: Keter, 1976.

Magnuson, Ed. "Israeli Strikes at the PLO." Time, 21 June 1982,
pp. 14-23.

Mead, Colonel James M. "The Lebanon Experience," Marine
Corps Gazette. February 1983, pp. 30-40.

O'ballance, Edgar. "Golith's War: Israeli Operation LITANI,
15-21 March 1978," Marine Corps Gazette, December 1978,
pp. 34-40.

O'Neill, Bard E., "The Defense Policy of Israel," Murray, O. J.
and Viotti, P. R., eds., The Defense Policies of Nations: A
Comparative Study (Baltimore: Johns Hopkins University Press,
1982), pp. 371-402.

"Ordnance Chief Discusses Equipment, Supply Problems," Tel Aviv
BAMAHANE. JPRS/MENA No. 82093 (Washington: 27 October
1982), pp. 112-115.

Peleg, A. "Electronic Sophistication Behind the Destruction of Syrian
Rockets in Lebanon," Tel Aviv MA'ARIV. JPRS/MENA No. 81555
(Washington: 17 August 1982), pp. 96-100.

"Performance of Israeli-Made Pilotless Plane," Jerusalem Domestic
Television Service. JPRS/MENA No. 82297 (Washington:
22 November 1982), pp. 47-49.

Rose, Lieutenant Colonel Moshe. "Decisions in Sinai," Marine Corps
Gazette, September 1957, pp. 53-61.

Rosen, M. and Eshkol, Y. "The War Around Beirut Is a Fight for
Eretz Yisra'el," Tel Aviv BAMAHANE. JPRS/MENA
No. 81377 (Washington: 27 July 1982), pp. 47-51.

Schiff, Ze'ev. "Sharon's Big Plan," Tel Aviv HA'ARETZ. JPRS/MENA
No. 81377 (Washington: 27 July 1982), pp. 24-27.

Schiff, Ze'ev. "Sharon's Strategy has Weakened Israel," Tel Aviv
HA'ARETZ. FBIS/MEA, 7 October 1982, pp. I9-I10.

Schieff, Ze'ev. "The Danger of Mistaken Conclusions," Tel Aviv
HA'ARETZ. JPRS/MENA No. 81728 (Washington:
9 September 1982), pp. 101-104.

Schiff, Ze'ev. "The PLO's Failures and Success," FBIS/MEA,
27 August 1982, pp. 112-116.

Tal, Major General Israel. "Israel's Defense Doctrine: Background
and Dynamics," Military Review, March 1978, pp. 23-27.

"The Israeli Campaign in Sinai, 1956," The Army Quarterly (British),
April 1957, pp. 40-51.

"The Sixth Arab-Israeli Conflict," Armed Forces Journal, August
1982.

"Tightening the Noose," Time, 28 June 1982.

VanCreveld, Martin. The Washington Papers. Vol. III. 24: Military
Lessons of the Yom Kippur War: Historical Perspectives.
Washington, D.C.: Sage Publications, 1975.

VanCreveld, Martin. "Two Years After: The Israeli Defense Forces,
1973-75," RUSI Journal of the Royal United Services Institute
for Defense Studies, March 1976, pp. 29-34.

Zemer, D. and Oren, A. "Air Force Commander 'Ivri Plays Down
War Success," Tel Aviv DAVAR. JPRS/MENA No. 82273
(Washington: 18 November 1982), pp. 53-61.